

Rec'd PCT/ 18 APR 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 May 2004 (06.05.2004)

PCT

(10) International Publication Number
WO 2004/039056 A3

(51) International Patent Classification?: H04N 9/475

(21) International Application Number:
PCT/US2003/033451

(22) International Filing Date: 22 October 2003 (22.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/420,871 24 October 2002 (24.10.2002) US

(71) Applicant (for all designated States except US): THOM-
SON LICENSING S.A. [FR/FR]; 46, Quai A. Le Gallo,
F-92648 Boulogne (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): JUNKERSFELD,

Phillip, Aaron [US/US]; 13232 Cameo Court, Carmel,
IN 46033 (US). JOHNSON, Devon, Matthew [US/US];
13245 LaCanada Boulevard, Fishers, IN 46038 (US).

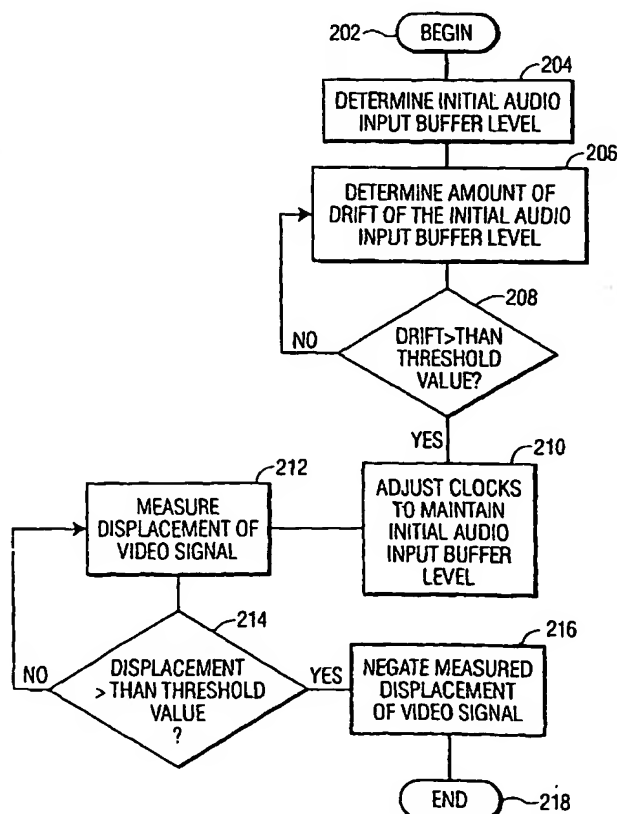
(74) Agents: TRIPOLI, Joseph, S. et al.; c/o Thomson Licens-
ing Inc., Two Independence Way, Suite #200, Princeton, NJ
08540 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

[Continued on next page]

(54) Title: A METHOD AND SYSTEM FOR MAINTAINING LIP SYNCHRONIZATION



(57) Abstract: The disclosed embodiments relate to a system (23) and method (200) for maintaining synchronization between a video signal (29) and an audio signal (31). The video signal (29) and the audio signal (31) are processed using clocks that are locked. The system (23) may comprise a component (34) that determines an initial audio input buffer level, a component (34) that determines an amount of drift in the initial audio input buffer level and adjusts the clocks to maintain the initial audio input buffer level if the amount of drift reaches a first predetermined threshold, and a component (32) that measures a displacement of a video signal (29) associated with the audio signal (31) in response to the adjusting of the clocks and operates to negate the measured displacement of the video signal (29) if the measured displacement reaches a second predetermined threshold.

WO 2004/039056 A3



ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:
23 September 2004

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/33451

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : HO4N 9/475

US CL : 348/515

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 348/515, 512, 513, 514, 516, 517, 536, 537

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONEElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,262,776 B1 (GRIFFITS) 17 July 2001, Figs. 1-2, column 11, line 23 to column 13, line 60.	1-20
Y	US 5,778,218 A (GULICK) 07 July 1998, Fig. 4-6, column 5, line 65 to column 9, line 63.	1-20
A	US 2002/0126703 A1 (KOVACEVIC) 12 September 2002, Fig. 1.	1-20
A	US 6,408,040 B2 (CHO) 18 June 2002, Fig. 5.	1-20
A	US 6,279,058 B1 (GULICK) 21 August 2001, Fig. 1.	1-20
A	US 6,347,380 B1 (CHANG ET AL.) 12 February 2002, Fig. 1.	1-20



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

08 July 2004 (08.07.2004)

Date of mailing of the international search report

30 JUL 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Trang U. Tran

Telephone No. (703) 305-0090

